

REPORT ON MACHINERY.

No. 5558

No. in Survey held at *Boston*

Date, first Survey *1st Aug. 84* Last Survey *August 7th 1884*

Reg. Book

on the *iron steam ship Lizzie & Annie*

(Number of Visits *2*)

Tons *99 62*

Master

Built at *Nath Shields*

By whom built *Softley & Co.*

When built *1878*

Engines made at

By whom made *Patterson & Atkinson*

Newcastle, when made

Milers made at

Boston

By whom made *Quapad & Co.*

when made *1884*

Registered Horse Power *25*

Owners *J. Slater*

(*Boston Harbor S. S. Co.*) Port belonging to *Boston*

GINES, &c.—

Description of Engines *Vertical inverted Cylinders Simple expansion Surface condensing*

Diameter of Cylinders *21 1/2"* Length of Stroke *16"* No. of Rev. per minute _____ Point of Cut off, High Pressure _____ Low Pressure _____

Diameter of Screw shaft *3 1/2"* Diam. of Tunnel shaft *3 7/8"* Diam. of Crank shaft journals *3 7/8"* Diam. of Crank pin *3 1/8"* size of Crank webs *5 1/2" x 2 1/2"*

Diameter of screw _____ Pitch of screw _____ No. of blades *3* state whether moveable *no* total surface _____

of Feed pumps _____ diameter of ditto _____ Stroke _____ Can one be overhauled while the other is at work _____

of Bilge pumps _____ diameter of ditto _____ Stroke _____ Can one be overhauled while the other is at work _____

Where do they pump from _____

of Donkey Engines _____ Size of Pumps _____ Where do they pump from _____

Are the bilge suction pipes fitted with roses _____ Are the roses always accessible _____ Are the sluices on Engine room bulkheads always accessible _____

of bilge injections _____ and sizes _____ Are they connected to condenser, or to circulating pump _____

Are the pumps worked _____

Are connections with the sea direct on the skin of the ship _____ Are they Valves or Cocks _____

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates _____ Are the discharge pipes above or below the deep water line _____

Are they each fitted with a discharge valve always accessible on the plating of the vessel _____ Are the blow off cocks fitted with a spigot and brass covering plate _____

How are the pipes carried through the bunkers _____ How are they protected _____

Are all pipes, cocks, valves, and pumps in connection with the machinery accessible at all times _____

Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges _____

Are the stern tube, propeller, screw shaft, and all connections examined in dry dock _____

Is the screw shaft tunnel watertight _____ and fitted with a sluice door _____ worked from _____

ERS, &c.—

Number of Boilers *One* Description *Circular multitubular* Whether Steel or Iron *iron*

Working Pressure *55 lb* Tested by hydraulic pressure to *130 lb* Date of test *1st August 1884*

Description of superheating apparatus or steam chest *Vertical Cylinder open bottomed with vertical stays*

Can each boiler be worked separately *X* Can the superheater be shut off and the boiler worked separately *X*

Area of fire grate surface in each boiler *16.0* Description of safety valves *dead load* No. to each boiler *Two*

Area of each valve *4 sq. in* Are they fitted with easing gear *yes* No. of safety valves to superheater _____ area of each valve _____

Are they fitted with easing gear _____ Smallest distance between boilers and bunkers *5'* Diameter of boilers *7' 6"*

of boilers *7' 6"* description of riveting of shell long. seams *double rivet lap* circum. seams *single rivet lap* Thickness of shell plates *1/2"*

of rivet holes *13/16"* whether punched or drilled *punched* pitch of rivets *3/4"* Lap of plating *4"*

Age of strength of longitudinal joint *64* working pressure of shell by rules *55 lb* size of manholes in shell *17' x 13'*

compensating rings *3' x 1/2"* No. of Furnaces in each boiler *2*

diameter *31"* length, top *5' 3"* bottom *7' 0"* thickness of plates *7/16"* description of joint *single rivet lap* if rings are fitted *no*

length between stays *6' 0"* working pressure of furnace by the rules *90 lb* combustion chamber plating, thickness, sides *1/2"* back *1/2"* top *1/2"*

stays to ditto, sides *6' x 6"* back *6' x 6"* top *rounded* stays are fitted with nuts or riveted heads *riveted heads* working pressure of plating by

175 lb Diameter of stays at smallest part *1 3/16"* working pressure of ditto by rules *180 lb* end plates in steam space, thickness *1/2"*

stays to ditto *10' between rivets* how stays are secured *riveted to angles* working pressure by rules *55 lb* diameter of stays at

test part *X* (quantity of plates) working pressure by rules *55 lb* Front plates at bottom, thickness *1/2"* Back plates, thickness *1/2"*

pitch of stays *6"* working pressure by rules *> 100 lb* Diameter of tubes *3"* pitch of tubes *5' x 4 1/4"* thickness of tube

s, front *3/4"* back *3/4"* how stayed *stay tubes* pitch of stays *15"* width of water spaces *1 3/4"*

of Superheater or Steam chest *27'* length _____ thickness of plates *7/16"* description of longitudinal joint *single rivet lap* diam. of rivet holes *3/4" + 13/16"*

rivets *2"* working pressure of shell by rules *120 lb* diameter of flue _____ thickness of plates _____ If stiffened with rings _____

between rings _____ working pressure by rules _____ end plates of superheater, or steam chest; thickness *7/16"* how stayed *4' 1 1/4" stays*

Superheater or steam chest; how connected to boiler *single rivet lap to shell*

of pieces of "Lizzie & Annie"



DONKEY BOILER— Description

Made at _____ by whom made _____ when made _____ where fixed _____
 Working pressure _____ tested by hydraulic pressure to _____ No. of Certificate _____ fire grate area _____ description of safety
 valves _____ No. of safety valves _____ area of each _____ if fitted with easing gear _____ if steam from main boilers can
 enter the donkey boiler _____ diameter of donkey boiler _____ length _____ description of riveting _____
 Thickness of shell plates _____ diameter of rivet holes _____ whether punched or drilled _____ pitch of rivets _____ lap of plating _____
 per centage of strength of joint _____ thickness of crown plates _____ stayed by _____
 Diameter of furnace, top _____ bottom _____ length of furnace _____ thickness of plates _____ description of joint _____
 Thickness of furnace crown plates _____ stayed by _____ working pressure of shell by rules _____
 Working pressure of furnace by rules _____ diameter of uptake _____ thickness of plates _____ thickness of water tubes _____

SPARE GEAR. State the articles supplied:—

The foregoing is a correct description,

Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c.)

New boiler not placed in the ship & engines generally overhauled.

Sail shaft drawn & examined. new brasses & bush for same. Steam take refitted & new nut for same. Crank shaft stripped & examined. Found in good order. Sea connections overhauled & refitted.

Respectfully submitted as eligible to remain as classed & with the notification N.B. 84 on completion as per letter to _____ forwarded herewith, and which is proposed to be done at London to which port the vessel plies regularly.

Also to see if gun glass is fitted to look after ship's side as arranged for.

The machinery tested under steam & found to be satisfactory. The safety valve lifted at a pressure of 55 lbs. per sq. in. A guard plate has been fitted on blow off cock, the spanner can only be removed when the cock is shut.

Geo. C. Wilkinson.

London 7th Nov. 1884.

It is submitted that this vessel is now eligible to have the notification N.B. 84 also NB 84 20/11/84

The amount of Entry Fee .. £ : : received by me,

Special .. 10/6 £ 3 : 3

Donkey Boiler Fee .. £ : :

Certificate (if required) .. £ : :

To be sent as per margin.

(Travelling Expenses, if any, £ 2.14.6)

Committee's Minute

FRIDAY 21 NOV 1884

NB 84

LR-FAE-SAI3-185

Robert Edmund Taylor & Son Printers, 15, Old Street, Goswell Road, London, E.C.